

Eau Claire Dells Bridge
Spanning the Eau Claire River
Eau Claire County Park
Plover
Marathon County
Wisconsin

HAER No. WI-30

HAER
WIS
37-PLOV
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
U. S. Department of the Interior
P. O. Box 37127
Washington, D. C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD

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Eau Claire Dells Bridge

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Location: Spanning the Eau Claire River, carrying traffic from County Trunk Highway Y into the East Unit of the Dells of the Eau Claire County Park, in the town of Plover, Marathon County, Wisconsin

UTM: 16.315740.4985890
Quad: Hogarty, Wisconsin

Date of Construction: 1927

Present Owner: County of Marathon

Present Use: Vehicular and pedestrian traffic

Significance: Built by the State Highway Commission in 1927, the Eau Claire Dells Bridge is an early example of a stone faced, reinforced concrete span. The single arch, filled spandrel design uses locally gathered stones to blend into the environment. Neo-classical proportioning of the three centered arch results in an aesthetically pleasing span in a spectacular setting.

Historian: Edwin Cordes
Wisconsin Historic Bridges Recording Project
Summer 1987

HISTORICAL DOCUMENTATION

The Eau Claire Dells Bridge, built in 1927, is an early Wisconsin State Highway Commission design. The span is unusual for its aesthetic sensitivity to the surrounding park area. The bridge forms the main southern entrance to one of the more scenic county parks in the State, and serves as a symbol for the Marathon County Park System. Locally collected stone veneer masks the neo-classically-proportioned barrel arch span, allowing the structure to adapt to the rustic setting.

DESCRIPTION

The Eau Claire Dells Bridge is a reinforced concrete, filled spandrel arch bridge located at the main southern entrance to the Dells of the Eau Claire Park. It carries traffic over the scenic Eau Claire River. The single span, three centered arch employs a rubble stone veneer to accent its rustic setting. Overall length of the structure is 116.5 feet. The bridge is 31 feet wide and carries a 30-foot wide roadway. The single arch spans 75 feet and rises 13 feet above the springing line.¹

The structure's facing is of locally collected stone to "preserve the original setting."² The abutments, piers, and spandrel walls were set in random fashion to imitate a rubble masonry type of construction. The stone coursing is continued on the interior posts and railings of the roadway above. A protruded 10-inch-wide ashlar stone line on the exterior of the bridge identifies the road level.

The Dells of the Eau Claire Park was created in 1924, when the Marathon County Park Commission purchased 60 acres of land along the Eau Claire River for a total cost of \$6,527.³ The park has been enlarged several times since the original county acquisition. The recreation area currently measures 190 acres in size. The primary attractions of the park are the dramatic rhyolite cliffs surrounding the river, caused by glacial movements 10,000 years ago. The Dells are a conservatory of numerous rare flower and tree species and attracts a wide variety of small mammals and birds.⁴ The Eau Claire Dells Bridge crosses the Eau Claire river at one of the park's most spectacular and scenic points. Rubble from the cliffs above has created small rapids in the river directly upstream from the bridge.

CONSTRUCTION

The design of the Eau Claire Dells Bridge emphasizes the natural surrounding as much as possible. The Highway Commission engineers took special care in designing the placement of the arch ring stones for this reason. Each stone was cut as precisely as possible, so that the mortar joints were minimal. A special method for anchoring the stone voussoirs was developed. Forms were built to set the stone ring before the concrete was poured. The stones were anchored, using 1/2-inch diameter steel dowels placed in drilled holes between

two stones. Wire twisted around the dowel and brought back into the arch anchored the ring. Stones in the arch were placed from the abutments towards the crown. After the arch was cast, stone work on the spandrel walls began. Stones were placed, starting at the haunches and working towards the soffits.⁵

The bridge was constructed, using bar reinforcing methods in common practice throughout the highway system.⁶ A cement top rail caps the structure and a small metal plaque located on the interior of the railing identifies W. H. Fisher and Sons as the general contractor for the project. The bridge was designed in the offices of the State Highway Commission, and the original plans identify G. H. Kirsh as the bridge engineer.⁷

SITE DEVELOPMENT

The stone-faced span, currently in use, was not the first bridge at the site. An earlier steel truss bridge originally formed the entrance to the park at the present site. In November 1926, the county engineer condemned this structure and recommended it be replaced with a concrete bridge.⁸ The original plans of the Wisconsin Highway Commission (WHC) called for a 64-foot plate girder concrete span with a 20-foot-wide roadway. The WHC engineering division estimated the total cost to be \$9,500.⁹ Although the County Board of Supervisors approved the engineer's recommendation, it soon became apparent that a design more fitting with the location was needed. By April 1907, city records show that a new, more aesthetic stone-faced design had been substituted. The total cost of the structure was shared by the county, the town of Plover, and the park commission. The park commission's portion of the total cost amounted to \$6,239.¹⁰ Construction began in the spring of 1927 and was completed by the fall. Upon completion of the bridge, the 1908 annual report of the county commissioners labeled the structure "a piece of art which everyone can be proud."¹¹

The estimated quantities of materials used included:¹²

| | | |
|-------------------|--------|-------------|
| Concrete | 282.7 | cubic yards |
| Stone masonry | 210 | cubic yards |
| Reinforcing steel | 20,540 | pounds |

WISCONSIN HIGHWAY COMMISSION

The Wisconsin State Highway Commission, created in 1911 by the State Legislature, assumed the responsibilities of the State Highway Division, a state office created just four years earlier. This new office was responsible for preparing plans and specifications for all Wisconsin highways and bridges constructed with state aid. The WHC's goal was to establish a uniform and safe highway system in the State for the ever-increasing numbers of families owning automobiles.¹³

The commission designed standard bridge plans, which were then made available to local communities for a nominal charge. Steel truss bridges remained popular at this time, but the State recommended concrete reinforced spans for a number of reasons. Concrete construction employed local skilled craftsmen, distributing wealth to the community and not to distant steel fabricating plants. Concrete was also felt to be more permanent and aesthetically pleasing than steel truss work. Finally, the price of steel rose to record high levels during World War I, making concrete construction more economical. Records show that the highway commission mailed over 16,000 bridge blueprints between the years 1911 and 1914, helping to establish a uniform and safe highway system in the State.¹⁴

The 1918 Annual Report of the Wisconsin Highway Commission contained an interesting discussion on the place of aesthetics in the commission's bridge designs. The WHC felt it had paid a great deal of attention to the appearance of its bridges in the past and had even received some criticism for spending money on 'looks.' The commission retorted that, since concrete is built to last decades, good appearance is essential. "We can not stand for ugliness in construction that is expected to be permanent."¹⁵

The Eau Claire Dells Bridge is significant to the history of the Wisconsin State Highway Commission because of the ornamental nature of the span. The extraordinary aesthetic sensitivity to the environment increased the cost of the structure slightly, but resulted in a bridge which adapted well to the environment and continues to be a symbol for the area park lands.

Eau Claire Dells Bridge

HAER No. WI-30

(Page 5)

FOOTNOTES

- 1 "Original Plans" of the Eau Claire Dells Bridge by the Wisconsin State Highway Commission. A microfilm copy can be found at the Wisconsin Department of Transportation Headquarters, Madison.
- 2 Ibid.
- 3 "Proceedings" of the Board of Supervisors, Marathon County, Wisconsin. Special Session, April 15-19, 1924.
- 4 "Dells of the Eau Claire Park." An informational booklet about the park and its formation, published by the Marathon County Park System.
- 5 Bridge Plans.
- 6 Ibid.
- 7 Ibid.
- 8 "Marathon County Board of Supervisors Minutes." Compiled at the annual meeting on November 9-13, 1926.
- 9 Ibid.
- 10 "Marathon County Park Commission Minutes," for the year 1927. All Marathon County records can be found in the Marathon County Courthouse, Wausau, Wisconsin.
- 11 Ibid.
- 12 Bridge Plans.
- 13 Wisconsin Highway Commission Fifth Biennial Report, see chapter 337, the laws of 1911.
- 14 Ibid.
- 15 Wisconsin Highway Commission Fourth Biennial Report, p. 13.

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